

**REMARKS/ARGUMENTS**

Claims 16, 17, 19-22, 24-32 stand cancelled.

The allowance of claims 8, 18, 23 is noted with appreciation.

Dependent claim 33 has been added in view of the newly cited reference to deBlois et al. U.S. Patent 5,718,014.

The above Amendment is believed to place the application in condition for allowance, or in better form for appeal. Consideration in view of the following remarks is respectfully requested.

**Claim 1**

Claim 1 has been rejected under 35 U.S.C. § 103(a) over Takasaki et al. U.S. Patent 6,312,821 in view of deBlois et al. U.S. Patent 5,718,014. The Examiner notes that Takasaki et al. '821 discloses all of the features claimed except for the use of a polymer layer that is molded around a metallic gear housing structure. The Examiner newly cites deBlois et al. '014 for disclosing a motorized device with an overmolded cover as shown in Figs. 1-13, the device being comprised of a metal gear housing structure 22, Fig. 2, a polymer layer 24 that is overmolded on the gear housing structure, Fig. 1, by means of injection molding, Fig. 9A, in order to make the gear housing structure waterproof. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a polymer layer that is overmolded on a metal gear housing structure as taught deBlois et al. '014 in combination with the marine propulsion device as disclosed by Takasaki et al. '821 for the purpose of providing a marine propulsion device with a gear housing structure having a waterproof outer covering.

deBlois et al. '014 discloses a housing for a hand-held cleaning apparatus or tool having a cover molded onto a shell, column 1, lines 6-7, 51-55, 59-61. As noted at column 3, lines 33+, referring to Fig. 2, apparatus 10 includes a housing 12, a battery cap 14, a battery 16, a motor 18, and a cleaning attachment 20. The housing includes a subassembly housing or shell 22 and a cover 24, column 3, lines 36-37. The cover 24 is injection molded over the subassembly shell 22, column 3, lines 55-56.

Claim 1 defines a marine propulsion device comprising a metallic gear housing structure and a polymer layer overmolded on the gear housing structure. As noted in the specification, page 1, lines 7-8, the overmolded layer of polymer material protects the metallic drive unit from corrosion, which addresses problems in marine propulsion systems where metallic drive units are subject to corrosion, particularly when used in salt water, page 1, lines 11-12. As noted at page 1, lines 17-19, those skilled in the art of polymer materials and overmolding techniques are well aware of many products on which a polymer overmolded layer is used to seal or protect a surface of an object. deBlois et al. '014 is an example.

**Nonanalogous Art**

It is firstly respectfully noted that deBlois et al. '014 is nonanalogous art. Even the broadest statements of applicability of deBlois et al. '014 are limited to a hand-held cleaning apparatus or a hand-held tool, for example independent claims 1, 12, 21. Furthermore, the specification disclosure in deBlois et al. '014, and the reasonably extended teachings thereof, do not extend to nor suggest nor motivate the proposed application thereof to Takasaki et al. '821 nor any other marine propulsion device. For example, even in the alternate embodiments noted in deBlois et al. '014, e.g. column 10, lines 52+, it is noted that "the cover could be molded onto a shell of any suitable type of motorized hand tool". It is respectfully submitted that there is no authority of record, other than applicant's disclosure, for applying deBlois et al. '014 as analogous art. There is no suggestion in the references themselves, neither Takasaki et al. '821 nor deBlois et al. '014, nor any other bridging or linking reference supporting nor suggesting nor motivating nor even hinting at an attempted combining of such references.

As noted in the present specification, page 5, lines 2+, it is known that various types of coatings, such as paint, can be used to protect surfaces of components that would otherwise be subject to corrosive attack because of the environment in which they are used. It is also known that composite structures can be attached to the external surfaces of marine drives, such as the systems described in U.S. Patents 5,487,687 and 6,468,119. As noted, it would be significantly beneficial if an overmolded layer could be quickly and efficiently

applied to a marine propulsion system that provides a rugged protective overmolded layer that is more durable than paint and more inexpensively applied than preformed housing elements that are later attached to the marine drive. Thus, the pieces of the puzzle were in existence and known prior to applicant's invention, as stated above and as evidenced by deBlois et al. '014, yet such individual pieces of the puzzle were never assembled until combined by applicant. The noted standing need and the noted existence of individual components, yet the nonrecognition of the claimed solution until applicant's invention, is believed probative of nonobviousness. If the solution were obvious to one of ordinary skill in the art, then the standing need would have motivated the combination proposed by the Examiner and the recognition of references such as deBlois et al. '014 as analogous art for solving marine propulsion problems. Instead, applicant's solution and combination remained elusive and unrecognized. This is believed demonstrative evidence of nonobviousness.

**Burden Of Prima-Facie Showing**

It is respectfully but affirmatively submitted that a prima facie showing for rejection of claim 1 has not been established because there is no supporting authority for applying deBlois et al. '014 as analogous art nor for suggesting or motivating the combination of deBlois et al. '014 and Takasaki et al. '821 nor how to effect such combination. Furthermore, it is respectfully submitted that the references are actually probative of nonobviousness of applicant's solution and combination.

It is respectfully submitted that a prima facie showing has not been made that it is obvious to provide a marine propulsion device including a metallic gear housing structure and a polymer layer overmolded on the gear housing structure. References for individual aspects have been cited, including a gear housing structure and a polymer overmolded layer. Is it obvious to provide a polymer overmolded layer on a marine propulsion gear housing structure? Is a linking reference necessary, particularly in view of the beneficial advantages and results, or is the mere combination of individually known aspects in the prior art sufficient to meet the requisite prima facie showing? It is respectfully submitted that a linking reference is necessary. Furthermore, it is respectfully noted that

Appl. No. 10/780,342

Amendment After Final dated May 23, 2005

Reply to Office action of April 1, 2005

there is no suggestion in the references themselves for combining same to arrive at the combination defined in claim 1.

Is there a nonobvious act of cognition and selection required to arrive at the invention defined in claim 1? It is respectfully submitted that the answer is yes.

Is the simplicity and effectiveness of applicant's solution, notwithstanding the long felt but unresolved need and motivation for same, surprising in a crowded art such as marine propulsion and such as overmolding of polymer layers, and is this actually probative of nonobviousness? It is respectfully submitted that the answer is yes. There is no reference cited suggesting the marriage of these two technologies.

As noted by the Supreme Court in United States v. Adams, 383 US 39 at 50, 148 USPQ 479, at 483 (1966), a companion case to Graham v. John Deere Company, 383 US 1, 148 USPQ 459 (1966):

"It begs the question. . .to state merely that magnesium and cuprous chloride were individually known battery components. If such a combination is novel, the issue is whether bringing them together as taught [by the inventor] was obvious in the light of the prior art."

The act of selection is a supportable basis for invention, and is not precluded by apparent simplicity, Republic Industries, Inc. v. Schlage Lock Co., 592 F.2d 1963, 200 USPQ 769 (1979) quoting Judge Learned Hand, B.G. Corp. v. Walter Kidde and Co., 79 F.2d 20, 26 USPQ 288 (1935):

"It may be that in certain circumstances the very choice of the elements to be selected is not obvious.", Republic, page 778.

Simplicity of a combination makes the task even more difficult.

It is respectfully submitted that the burden of factually supporting a prima-facie conclusion of obviousness is not present. There is no showing, suggestion, or even hint of combining the references as proposed, nor to arrive at the combination defined in

Appl. No. 10/780,342

Amendment After Final dated May 23, 2005

Reply to Office action of April 1, 2005

claim 1. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination, MPEP 2143.01. None of the references suggest the desirability of the proposed combination. It is respectfully submitted that there must be some motivation in the prior art itself for combining or attempting to combine the references, particularly in view of the significant advantages resulting from applicant's combination as noted above, and the resulting enablement afforded thereby.

Further, in direct rebuttal of the Examiner's position, applicant respectfully notes In re Lee, 61 USPQ (2nd) 1433, CAFC 2002, noting that the question of obviousness requires evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. The CAFC further elaborated on this matter by explaining that the test cannot be met simply by saying that the basis for combining the references comes from "common knowledge" or is "common sense". The Examiner's position thus is not sustainable.

In re Kotzab, 55 USPC 2nd 1313, CAFC 2000, the Court commented on the need for avoiding a "hindsight syndrome". This is particularly important in cases where the very ease to which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher".

**Combinability Of References And  
Reasonable Teachings Thereof**

The Examiner is respectfully requested to consider In re Dembiczkak, 50 USPQ 2nd 1614 (1999), wherein the invention at issue was a large trash bag made of orange plastic and decorated with lines and facial features, allowing the bag, when filled with trash or leaves to resemble a Halloween-style pumpkin or jack-o-lantern, and which was rejected over a combination of the references showing traditional trash bags and decorated jack-o-lantern or pumpkin bags. The Court notes, page 1616, that an analysis under §103 begins with the phrase "at the time the invention was made" to guard against entry into the "tempting but forbidden zone of hindsight", and that, page 1617, "measuring a claimed

Appl. No. 10/780,342

Amendment After Final dated May 23, 2005

Reply to Office action of April 1, 2005

invention against the standard established by §103 requires the oft-difficult but critical step of casting the mind back to the time of the invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field", and to avoid the temptation which may otherwise prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher". Further, the Court in Dembicza, notes page 1617, that the "case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references". The Court further notes, page 1617, that "combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight".

It is respectfully submitted that in the present case, the rejection does not identify any suggestion, teaching or motivation to combine the references as proposed.

As noted by the Court in Dembicza, page 1618, "yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention", so too the present rejection reference-by-reference and limitation-by-limitation analysis fails to demonstrate how the references teach or suggest their combination.

#### Act Of Cognition Or Selection

The presence in the prior art of marine propulsion devices with metallic gear housing structures, and the presence in the prior art of polymer overmolded layers, yet the non-recognition of applicant's solution is respectfully submitted as demonstrative evidence of nonobviousness. This non-recognition is particularly conspicuous in a crowded mature art, and is believed probative that applicant's solution involves a nonobvious act of cognition and selection required to arrive at such solution not previously recognized in the art.

The Examiner is respectfully requested and earnestly entreated to consider that simplicity in application does not preclude a finding of nonobviousness. Those in the

Appl. No. 10/780,342

Amendment After Final dated May 23, 2005

Reply to Office action of April 1, 2005

art have not recognized nor been motivated to applicant's combination, notwithstanding the known use of individual aspects. It may deceptively seem apparent to now combine individual aspects as shown by applicant, but only with the aid of hindsight. There does not appear to be any suggestion of any such marriage or combination in the art to arrive at the present solution in the defined combination, nor does there appear to be a reference which bridges the gap to applicant's invention. The pieces of the puzzle were present and known for many years, but never assembled together until applicant's invention. It is surprising that such a simple yet desirable combination has apparently gone unrecognized in the art for so long. The absence of such suggestion is particularly conspicuous in a crowded art, especially in view of the age of the art and the longstanding non-recognition of the present solution, and is believed probative of non-obviousness.

It is respectfully submitted that the cognition, selection and application in the present invention is novel and nonobvious and is not recognized in the prior art. The invention requires linking association involving a cognitive step not suggested previously in the art.

Applicant recognizes that it is a difficult if not impossible task to completely purge oneself of hindsight when attempting to place oneself in the shoes of the legal ghost called the ordinarily skilled artisan. Simplicity of a combination makes the task even more difficult. As noted above by the Supreme Court *It begs the question. . .to state merely that magnesium and cuprous chloride were individually known battery components. If such a combination is novel, the issue is whether bringing them together as taught [by the inventor] was obvious in the light of the prior art.* The act of selection is a supportable basis for invention, and is not precluded by apparent simplicity. As noted by Judge Learned Hand, *it may be that in certain circumstances the very choice of the elements to be selected is not obvious.*

**MPEP 2144.03**

Further in response, applicant respectfully notes MPEP 2144.03 indicating:

Appl. No. 10/780,342

Amendment After Final dated May 23, 2005

Reply to Office action of April 1, 2005

*In limited circumstances, it is appropriate for an examiner to take official notice of facts not in the record or to rely on "common knowledge" in making a rejection. . .*

MPEP 2144.03(A) states:

*Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances.*

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*Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known.*

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*the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute". . .*

However, MPEP 2144.03(A) further states:

*We reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.*

As noted in MPEP 2144.03(B):

*Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge.*

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*If such notice is to be taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge.*

Appl. No. 10/780,342  
Amendment After Final dated May 23, 2005  
Reply to Office action of April 1, 2005

Traverse Under MPEP 2144.03

As noted in MPEP 2144.03(C):

*To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art.*

Applicant hereby respectfully but vigorously traverses such assertion and finding.

Applicant specifically points to the error made by the Examiner in the Office Action on page 4, second paragraph:

"Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to utilize a polymer layer that is overmolded on a metal gear housing structure, as taught by deBlois et al., in combination with the marine propulsion device as disclosed by Takasaki et al. for the purpose of providing a marine propulsion device with a gear housing structure having a waterproof outer covering."

Furthermore, applicant specifically points out error as to the following, all of which are particularly and specifically refuted and pointed out in detail above, namely:

- (a) the state of the art and the level of ordinary skill in the art
  - (as specifically stated in MEPEP 2144.03(A): *we reject the notion that judicial or administrative notice may be taken of the state of the art*);
- (b) nonanalogous art;
- (c) the burden of a prima facie showing;
- (d) combinability of references and reasonable teachings thereof;
- (e) the act of cognition or selection.

Applicant has adequately traversed the Examiner's assertion, and accordingly it is respectfully submitted that documentary evidence must be provided if the rejection is to be maintained as specifically set forth in MPEP 2144.03(C):

Appl. No. 10/780,342  
Amendment After Final dated May 23, 2005  
Reply to Office action of April 1, 2005

*If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained.*

**Doubt**

The Examiner is further respectfully and earnestly entreated to consider that "doubt" as to patentability should be resolved in the applicant's favor. As noted in In Re Warner (1967) 54 CCPA 1628, 379 F.2d 1011, 154 USPQ 173, Cert denied 389 US 1057, rehearing denied 390 US 1000:

*The "doubt" in the above cases arose from and related to the absence of facts necessary to support the Patent Office's legal conclusion of obviousness under Section 103. We think the precise language of 35 USC 102 that "a person shall be entitled to a patent unless," concerning novelty and unobviousness, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under Sections 102 and 103, see Graham and Adams. Where such proof is lacking we see no necessity for resolving doubt in favor of the Patent Office's position, for example, where, as in the above cases, the factual basis to support the legal conclusion of obviousness under Section 103 is missing, and the record there supported the applicant's position that the invention was reconstructed through hindsight. Nowhere in these cases was there the necessary factual basis to support the conclusion that it would have been obvious to one of ordinary skill to bring the elements together. United States v. Adams, supra.*

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*A rejection based on Section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, all facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply*

***deficiencies in its factual basis.*** (emphasis added) *To the extent the Patent Office rulings are so supported, there is no basis for resolving doubts against their correctness. Likewise, we may not resolve doubts in favor of the Patent Office determination where there are deficiencies in the record as to the necessary factual bases supporting its legal conclusion of obviousness.*

The Examiner is respectfully requested and earnestly entreated to consider that simplicity in application does not preclude a finding of nonobviousness. Those in the art have not recognized or been motivated to applicant's combination, notwithstanding the known use of isolated aspects. It may deceptively seem apparent to now combine isolated aspects as shown by applicant, but only with the aid of hindsight. There does not appear to be any suggestion of any such marriage or combination in the cited art, nor does there appear to be a reference which bridges the gap to applicant's invention. The pieces of the puzzle were present and known in the art, but never assembled together until applicant's invention. It is surprising that such a simple yet desirable combination has apparently gone unrecognized in the art. The absence of such suggestion is particularly conspicuous in a crowded art, especially in view of the nonrecognition of the present solution, and is believed probative of nonobviousness.

It is respectfully submitted that the recognition, selection and application in the present invention is novel and nonobvious, and is not recognized in the art. The invention requires linking association involving a cognitive step not suggested previously in the art.

### **Claim 33**

Claim 33 depends from claim 1 and further defines the overmolded polymer layer as having an exposed surface of hydrodynamic shape, as supported by the specification, page 8, line 6. Even if deBlois et al. '014 were combined with Takasaki et al. '821, there is still no teaching of the subject matter set forth in claim 33. As noted at page 8, lines 2+, the external metallic surface of gear case 10 is not intended to be in contact with water because of the subsequent polymer overmolded layer that is applied, and hence the hydrodynamic shape of the outer surface of the gear case 10 is not a necessity, i.e. the

underlying surface of overmolded polymer layer 50 provided by the external surface of metallic gear case 10 may or may not be hydrodynamically shaped. This is not recognized in Takasaki et al. '821. In deBlois et al. '014, the external surface contours which are taught and motivated are those conducive to hand-held tools, for example as shown in Figs. 5A and 5B.

**Claims 2-7, 9-11, 13-15**

Claims 2-7, 9-11, 13-15 depend directly or indirectly from claim 1 and are believed allowable for the reasons noted above. Furthermore, these claims define subcombinations, each of which is believed allowable.

**Claim 12**

Claim 12 has been rejected under 35 U.S.C. § 103(a) over Takasaki et al. '821. Reconsideration of this rejection is respectfully requested. There is no teaching nor suggestion nor motivation in the reference itself for the distinctive subject matter of claim 12 requiring that the thermal coefficient of expansion of the metallic gear housing structure be generally similar to the thermal coefficient of expansion of the polymer layer, in the absence of applicant's specification. There is no supporting authority of record establishing the asserted level of ordinary skill in the art, nor a bridging or linking reference for modifying or otherwise applying Takasaki et al. '821 as proposed. In the absence of a *prima facie* showing, applicant must respectfully but vigorously challenge the grounds for rejection as entering the forbidden zone of hindsight. Respectfully, applicant again invokes MPEP 2144.03, and traverses such assertion. In accordance with MPEP 2144.03(C), applicant specifically points to the error in the Office Action, page 3, third paragraph, namely:

"Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to utilize a polymer layer with a thermal coefficient of expansion that is generally similar to a thermal coefficient of expansion of a metallic part that is to be coated by said polymer layer, in combination with the marine propulsion device as disclosed by Takasaki et al. for the purpose of providing a marine propulsion device with a polymer layer over a metal gear housing structure that will expand and contract at generally the same rate as

Appl. No. 10/780,342

Amendment After Final dated May 23, 2005

Reply to Office action of April 1, 2005

said gear housing structure in order to avoid cracking or thermal damage."

It is believed that this application is in condition for allowance with claims 1-15, 18, 23, 33, and such action is earnestly solicited.

Respectfully submitted,

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